

Editor's Message

We are thrilled to welcome you to this edition of *Integral Krishi Darpan*. India's agricultural sector plays a pivotal role in the nation's economy by ensuring food security and generating wealth. The production and productivity of agricultural crops depend on soil nutrient status, climatic conditions and the adverse effects of various biotic and abiotic factors, which significantly reduce yields. Use of chemical fertilizers, production of food with low nutritive value and the development of crop varieties resistant to biotic and abiotic stresses are crucial aspects of modern Agriculture. Maintaining soil health, adopting new technologies and extending these advancements to farmers are essential for sustainable agricultural growth.

Fusarium Head Blight (FHB), also known as scab, is a serious fungal disease in wheat caused primarily by *Fusarium graminearum*. This disease results in significant yield loss, reduced grain quality and contamination with mycotoxins, particularly deoxynivalenol (DON), which poses health risks to both humans and animals. Integrated disease management (IDM) approach, combining resistant varieties, cultural practices and judicious fungicide application, is the most effective way to mitigate FHB impact.

Nanotechnology presents immense potential for revolutionizing the agri-food sector, improving productivity and enhancing food safety. However, its application must be accompanied by rigorous scientific evaluation, risk assessment and regulatory frameworks to mitigate potential hazards. Ensuring the responsible use of nanotechnology will be crucial in maximizing its benefits while minimizing risks to human health and the environment. To strengthen market-led extension, investment in agri-infrastructure, digital market platforms, and farmer capacity building programs is essential. Encouraging participatory extension approaches and strengthening cooperatives can further enhance the effectiveness of this model.

To maintain soil health, farmers should adopt sustainable practices such as crop rotation, organic amendments, reduced tillage and cover cropping. Investing in soil health ensures long term agricultural productivity and environmental conservation. Adulteration in chemical fertilizers is a major concern, as it reduces nutrient availability, affects crop yield, and harms soil health. Farmers and agricultural professionals should be aware of common methods to check for adulteration.

Mushrooms are more than just a culinary ingredient; they are a nutritional and medicinal marvel. Whether consumed for their rich flavor, health benefits, or sustainability, mushrooms remain one of nature's most unique discoveries in nutrition. Cultivating salt-tolerant mustard varieties with proper soil management, nutrient application, and timely irrigation can significantly improve yield in saline prone areas. Integrating bio-fertilizers, organic amendments, and proper pest management further enhances sustainability and profitability. Lentils are a highly nutritious and versatile food that can be an essential part of a balanced diet. They are rich in protein, fiber, and essential vitamins and minerals, making them an excellent plant based protein source, especially for vegetarians and vegans.

As the Editorial Board, we are dedicated to bringing you the latest insights and research at the crossroads of technology and agriculture. Our mission is to promote knowledge sharing, innovation and collaboration, fostering a community of forward thinking professionals committed to leveraging technology for the advancement of global Agriculture.

We hope this issue of *Integral Krishi Darpan* inspires you to explore new opportunities in Agriculture. Together, let's push the boundaries of what's possible, working toward a sustainable and prosperous future for all.

Thank you for your continued support and readership

Editorial Board